

NATIONAL SKILL QUALIFICATION FRAMEWORK QUALIFICATION FILE

Version 6: Draft of 08 March 2016

CONTACT DETAILS OF THE BODY SUBMITTING THE QUALIFICATION FILE

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List of documents submitted in support of the Qualifications File

1. x
2. x
3. x

SUMMARY

Qualification Title	Aroma Process Assistant
Qualification Code	MSME / APA / 03
Nature and purpose of the qualification	<p>Nature – Diploma course in Aroma Process.</p> <p>Purpose -</p> <ul style="list-style-type: none"> • Learners who attain this qualification are competent in processing aroma bearing plant to distilled/extract to get essential oil and can get a job in essential oils industry or become an entrepreneur. • Qualifying learners attain skills in distillation, extraction of aroma bearing plants for essential oils. Qualified learners are capable of distillation , extraction and fractionation of essential oils • Trade diploma equivalent to technical diploma to make trend in processing plants operations & their maintenance with little knowledge about the some common aroma bearing plants
Body/bodies which will award the qualification	TDC-FFDC, Min. of MSME, Govt. of India, Kannauj
Body which will accredit providers to offer courses leading to the qualification	TDC-FFDC, Min. of MSME, Govt. of India, Kannauj
Body/bodies which will carry out assessment of learners	Examination Cell of TDC-FFDC, Min. of MSME, Govt. of India, Kannauj
Occupation(s) to which the qualification gives access	<ul style="list-style-type: none"> ○ Aroma Processing techniques and plant operation with general maintenance of plants. ○ Process Plant operator
Licensing requirements	N/A
Level of the qualification in the NSQF	4
Anticipated volume of training/learning required to complete the qualification	1500 hours
Entry requirements and/or recommendations	Intermediate with science
Progression from the qualification	<p>Job Progression – After completion of the diploma learner able to find employment as skilled/technical worker and after 2 to 3 years of field experience the trainee can work as process plant operator and after 5 years of experience became process plant supervisor /incharge.</p> <p>After diploma trainee can get post graduate diploma.</p>

Planned arrangements for the Recognition of Prior learning (RPL)	Yes
International comparability where known	Not Known
Date of planned review of the qualification.	January 2018

Title of Unit	Mandatory / Optional	Estimated Size (learning Hours)	Level
Basic knowledge about aromatic herbage for distillations/extraction	Mandatory	80 hours	3
Hydro distillation techniques	Mandatory	80 hours	3
Hydro-steam Distillation	Mandatory	80 hours	3
Steam Distillation	Mandatory	80 hours	4
Solvent extraction	Mandatory	240 hours	4
Maintenance of steam generator	Mandatory	160 hours	4
Maintenance of thermic fluid heater	Mandatory	160 hours	4
Maintenance of distillation units	Mandatory	240 hours	3
Separations of oils	Mandatory	60 hours	4
Fractionation of oils	Mandatory	320 hours	4
	Total	1500 hours	

Please attach any document giving further detail about the structure of the qualification – eg a Curriculum Document or a Qualification Pack.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

SECTION 1

ASSESSMENT

Body/Bodies which will carry out assessment:

TDC-FFDC, Min. of MSME, Govt. of India, Kannauj

The assessment is carried out by assessment cell of the organization.

How will RPL assessment be managed and who will carry it out?

The RPL assessment is also managed by assessment cell of TDC-FFDC, Min. of MSME, Govt. of India) by written, skill and practical test.

Describe the overall assessment strategy and specific arrangements which have been put in place to ensure that assessment is always valid, reliable and fair and show that these are in line with the requirements of the NSQF.

The assessment is carried out by written examination, practical outcomes, working capacity and skill test. The all outcomes of assessment will maintained in fair documents in terms of marks and grading system given by assessment body.

Please attach any documents giving further information about assessment and/or RPL.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

1. ASSESSMENT GUIDELINE:

- a. Criteria for assessment based on each learning outcomes, will be assigned marks proportional to its importance.
- b. The assessment for the theory & practical part is based on knowledge bank of questions created by trainers and approved by Examination cell (Assessment cell of FFDC. Kannauj)
- c. For each Individual batch, Examination cell will create unique question papers for theory part as well as practical for each candidate at each examination.
- d. To pass the Qualification, every trainee should score a minimum of 75% cumulatively (Theory and Practical)

Assessment comprises the following components:

- >Job carried out in labs/workshop
- >Record book/ daily diary
- >Answer sheet of assessment
- >Viva -voce
- >Progress chart
- >Attendance and punctuality

2. ASSESSORS:

FFDC faculty teaching the processing of aromatic plants for the essential oils and maintenance of process plant also assesses the students as per guidelines set by assessment cell of FFDC. Faculties are been trained from time to time to upgrade their skills on various aspects such as conduction of assessments, teaching methodology etc. These training are usually conducted at FFDC, Kannauj

3. ELIGIBILITY TO APPEAR IN THE EXAM:

Minimum 75% attendance is compulsory for the students to appear for the assessments.

4. MARKING SCHEME:

Sr. No.	Method of Assessments	Weightage (Max. marks)	Evaluator
1	Written test	50	Trainer + Moderator (Head of Processing)+ Examiner nominated by Assessment cell (FFDC)
2	Practical test	30	
3	Oral test/viva voce	10	
6	Direct Observation	10	
Total		100	

5. PASSING MARKS:

Passing criteria is based on marks obtain in attendance record, term works , assignments, practical's performance, viva or oral exam, module test, practical exam and final exam

Minimum Marks to pass practical exam - 70%

Minimum Marks to pass final exam - 70%

Minimum Marks to pass viva / oral exam - 70%

6. RESULTS AND CERTIFICATION:

The assessment results are backed by evidences collected by assessors. Successful trainees are awarded the certificates by FFDC, Kannauj.

ASSESSMENT EVIDENCE

Assessment evidence comprises the following components document in the form of records:

- 1) Job carried out in labs/workshop
- 2) Record book/ daily diary
- 3) Answer sheet of assessment
- 4) Viva –voce
- 5) Progress chart
- 6) Attendance and punctuality

Title of Component:

S.No.	Outcomes to be assessed	Assessment criteria for the outcome
1.	Knowledge of Aromatic Plants	The candidate should know about 1.1 Basics cultivation of some common aroma bearing plants. 1.2 Cultivation practices of aromatic grasses like – Lemongrass, citronella, palmarosa 1.3 Classification of Aromatic plants 1.4 Characteristics of Aromatic Plants
2.	Distillation Practices	The candidate should know about 2.1 Laboratory scale distillation of aromatic crops. 2.2 Determination of oil content in the herbage of aromatic crops. 2.3 Methodology involve in hydro distillation and hydro-steam distillation. 2.4 Methodology involve in Field distillation unit and its basic operation. 2.5 Basic parts and tools and equipment for the distillation unit 2.6 The types of boilers and basic parts of boiler and its principle. 2.7 The condensation process and equipments
3	Solvent Extraction techniques	The candidate should know about 3.1 Basic of extraction technique and types of solvents. 3.2 Laboratory scale solvent extraction by soxhlet apparatus. 3.3 Pilot scale solvent extraction of aromatic plants etc. 3.4 Routine maintenance of the solvent extraction plants, 3.5 Safety precaution needed for the solvent extraction plant
4	Fractionation techniques	The candidate should know about 4.1 Basic of separation of liquids 4.2 Boiling point of liquid. 4.3 Separation due to the different in boiling points. 4.4 Parts of the fractionating columns.

		<p>4.5 Parts of the thermic fluid heater.</p> <p>4.6 Routine maintenance of the thermic fluid heater.</p> <p>4.7 Routine maintenance of fractionating columns</p>
	<p>Means of assessment 1 and 2</p> <p>The theoretical and practical knowledge will be assessed by conducting examination of particular modules and practical observation of learner by examination cell. The competence level will be measured according to marks obtained in particular theory and practical. The skill development and working capacity will also be observed by viva-voce and method on working.</p>	
	<p>Pass/Needs Improvement/Fail</p> <p>The word Pass/Needs improvement/Fail is applied according to the practical performance during assessment.</p> <p>i) Minimum Marks to pass practical exam – 70%</p> <p>ii) Minimum Marks to pass final exam – 70%</p> <p>iii) Minimum Marks to pass viva / oral exam – 70%</p> <p>Minimum Marks to pass Project report and presentation exam – 70%</p>	

SECTION 2

EVIDENCE OF LEVEL

Awarding bodies will enter a proposed NSQF level for the qualification in the Qualification File Summary. This section asks for the evidence on which that proposal is based. The evidence must refer to the level descriptors of the NSQF.

NSDA recommends an approach to working out the level of qualifications which starts with the level descriptor domains (Process, Professional knowledge, Professional skill, Core skill and Responsibility: see annex A). Two variants for providing the evidence of level are offered here: Option A and Option B in the following pages. Awarding bodies should choose the option which best suits the qualification.

OPTION A

Title/Name of qualification/component : Process plant operator			Level: 4
NSQF Domain	Outcomes of the Qualification/Component	How the job role relates to the NSQF level descriptors	NSQF Level
Process	Process plant operator know the basics of processing of the plant and its operations, distillation process, solvent extraction process, fractionation process, repair and maintenance	Work in familiar, predictable, routine, situation of clear choice.	4
Professional knowledge	Process plant operator have the knowledge basis of extraction and distillation of aromatic crops, distillation, solvent extraction and repair and maintenance	Factual knowledge of operational and maintenance of process plant	4
Professional skill	Equipment handling, selection of plants, measuring, Operating equipment.	Recall and demonstrate practical, skill, routine and respective in narrow range of application using appropriate rule and tool using quality	4
Core skill	Knowledge of Hindi & English language to communicates written or oral with trainer, farmers and industrialists, mathematical ability.	Language to communicate written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment.	4
Responsibility	Responsible for distillation of herbage, oil separation and maintenance of unit.	Responsibility of own work and learning from others	4

OPTION B

Title/Name of qualification/component: Process plant operator			Level: 4
NSQF Domain	Key requirements of the job role	How the job role relates to the NSQF level descriptors	NSQF Level
Process	Selection of plants, Distillation of aromatic plants solvent extraction, repair and maintenance and their post- distillation management	Work in familiar, predictable, routine, situation of clear choice.	4
Professional knowledge	Knowledge about plants, distillation and solvent extraction techniques, tools and equipment used in the process, different distillation Technologies and also the raw materials	Factual knowledge of field of knowledge or study.	4
Professional skill	Loading and unloading techniques, uniform burning, duration of process, condensation of distillate, separation of essential oil, Storage of oil and maintenance of distillation unit.	Recall and demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rule and tool, using quality concepts.	4
Core skill	Knowledge of Hindi&English language to communicates written or oral with trainer, farmers and industrialists, mathematical ability.	Language to communicate written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment.	4
Responsibility	Responsible for distillation of herbage, oil separation and maintenance of unit.	Responsibility of own work and learning from others	4

SECTION 3

EVIDENCE OF NEED

What evidence is there that the qualification is needed?

The various aroma based industries and pharmaceutical manufacturing companies are in need of natural essential oil they utilized it as a raw materials in various formulations/products. The pharmaceutical, cosmetics and perfumery industries are based on essential oil mostly they distilled essential oils as raw materials from aromatic crops. Due to lack of good extraction techniques, the yield of essential oil is reduce day by day and, therefore the qualification of process plant operator for distillation or extraction of essential oils are in need in essential oil and pharma industries. If this course is approve, the skilled manpower may be produced who has good knowledge of distillation and extraction of essential oils from aromatic crops with maintenance skill of units.

What is the estimated uptake of this qualification and what is the basis of this estimate?

About 500 skilled manpower per year is needed according to the literature/published source survey and demand of aroma-based industry.

What steps were taken to ensure that the qualification(s) does (do) not duplicate already existing or planned qualifications in the NSQF?

We have compared the qualification available for this level training is not duplicating the existing qualification in NSQF.

What arrangements are in place to monitor and review the qualification(s)? What data will be used and at what point will the qualification(s) be revised or updated?

We provide the data of intake, feedback, assessment records, RPL and employment detail of the participants and discussion with industry.

Please attach any documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.

SECTION 4

EVIDENCE OF PROGRESSION

What steps have been taken in the design of this or other qualifications to ensure that there is a clear path to other qualifications in this sector?

Qualifying trainee will obtain an FFDC Certificate in 'Aroma Process Assistant'. After 2 year of experience give the opportunities to the trainees to work as Process plant operator as a career progression with this position and experience of 3 years gives career scope of Plant supervisor. Also he/she can become an entrepreneur in this sector after getting 3 year of experience.

Please attach any documents giving further information about any of the topics above.

Give the titles and other relevant details of the document(s) here. Include page references showing where to find the relevant information.